Linux.

Linux is nothing but unix

OS => Kernel + Software

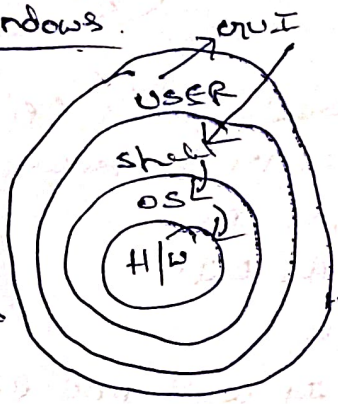
Features:

- user friendly
- secure
- open source

Shell = command prompt

OS => convert command to 0 or 1

windows.

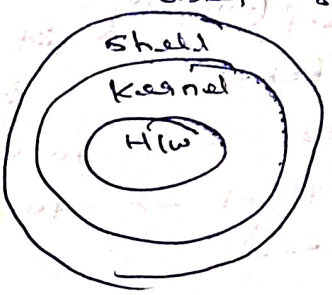


folder

software

administrator

Linux.



directories

package

root

File system Hierarchy

/ (forward slash) --- top level root directory

Interview

/bin & /sbi

- /root — Administrator Directory (Home Directory for root user)
- /home — user details stored in this directory
- /usr (user) — software & Application details stored
- /boot — bootable files
- /etc — config files
- /bin — history of user, root use commands

/sbin

Commands history of root user

Ctrl+d = to
Ctrl+D = to

Devops Linux

> Sudo su - => Super user do switch user.
> pwd ——> present working directory
> ls ——> list
> clear —> To clear File
=> CAT > file1 (overwrite) —> It will create file1 (File) & Also store written sentences.
hello I'm Rohith
=> CAT file1 ——> to see Inside Data
=> CAT >> File1 —> to Append the Data (Add)
Hi Friend
=> cat file1 file2 > File3 => It will add file1 data & file2 Data to file3
=> touch Rh1 —> Create Rh1 File.
touch Rh1 Rh2 Rh3 —> u can create multiple files

go to root user
sudo su

Diff b/w CAT & touch

CAT	touch
u can create & Read the file.	u can create the file.

=> stat Rh1 => to see time stamp
=> Vi/Vim Editor => to add content or to write.
(Vi Rh1) ——> if Rh1 not there it will create that file also.
Esc :wq (Save & quit)
Insert —> to edit the data
=> nano editor —> u don't have to press Insert / Directly u can edit.
(nano file1)
Ctrl + X => to Exit.
Y —> to save Data which written
N —> to not save
Enter
=> nano Rh1
=> Echo "Rohith" => It will print Rohith.
=> echo "hello" > Rh8 => It will create Rh8 File & store hello Data Inside it. to check use CAT Rh8
Doubt.
Echo -e "hello good morning" —> to print that in single line
(-e editor)
=> Echo -e "hello good \t morning => to maintain space
tab => hello good morning
=> Echo -e "hello good \n morning -> to print morning in new line
new line
maintained space
\b , \v
back vertical

=> man Echo => to display manuals
q => to quit man command

=> Echo --help <- tay Echo -- help (give space)
or help Echo

tay
Echo -e " hello \n good morning \t all \n this is Devops class

\n new line
\t tab

=> Mkdir Rh1 => to create Rh1 folder (Directory)
=> cD Rh1 -> to enter Rh1 Directory
=> cD.. -> to exit current Directory
=> Mkdir R1 R2 R3 -> u can create multiple Directory.
=> mkdir -p R1/R2/R3 => inside R1 directory R2 will present & inside R2 R3 Directory will present.
=> cD R1/R2/R3 -> u will directly enter to R3 Directory.
=> cD ../.. -> u will directly go back to R1 Directory
2 Directory back.
=> cD -> just to go back to first.
=> Rmdir R5 => if R5 Directory is Empty then only you can use this command.
=> Rmdir R1 R2 R3 => to remove at a time
=> rm -rf * -> to remove Everything forcefully.
recursively force
=> rm -r R1 => Even if Any Directory or file present in R1 u can delete that using -r.
recursively
=> rm R1 R2 R3 => to remove All the files
=> mv f1 f2 f3 Rh1 => u r moving All 3 files (f1 f2 f3) to Rh1 so All 3 files are present in Rh1 => (like cut & paste)
=> cp f1 f2 d5 => It will copy f1 & f2 Data to d5
Data
=> mv f1 Rh1 => here f1 file Data will Rename to Rh1 & Rh1 folder will create.
Rh1 not Created in Directory
=> cp -r f1 rohith -> moving f1 file which is present in f2 file to new folder of rohith
recursively
new file
file which present Inside f2 file
=> ps => process
=> whoami -> It will show which user Am I
=> cp * f5 => All files will copy to f5

> ls -a => to see All files (hidden & dependent)
>
> ls -l or ls -ll ← list hidden files
> ↑ => with file permissions as shown
> long list
> ls -lt => Recently created will show in Top
> ls -lrt => ——— ——— ——— ——— in Reverse order

permissions

-rw-r--r-- => 644 permissions

r = read = 4 — rw- = user = 6
w = write = 2 — -r- = group = 4
x = Execute = 1 — r-- = others = 4

chmod -> change modification.
or
change mod

=> chmod 777 filename -> to provide all permission for file
=> chmod -R 777 Directoryname -> for Directory

How you Differentiate file & Directory.
Files are starts from -
Directories starts from d

Interview

or

=> chmod u+r,g+x, o+w+x filename
=> chmod -R u+r,g+r,o+w Directories

rwx rwx rwx ——> r-x --x rw-
chmod u-w, g-r-w, o-x filename

=> du -sh => to check disk usage.
↑ ↑
disk usage size

=> du -sh * — to check All files
=> du -sh R1 -> To check disk utilization for R1
=> df -h => To check system size
=> free -m => ——— memory
=> find . -type f -iname filename of the file
↑ ↑ ↑
current directory file name of the file

find . -type d -iname dir1 → before this create mkdir -p dir1/dir2/dir3

=> find . -type f -mtime -90
↑ => files which are All created from last 90 Days
+90 => before 3 months which are all created

> find . -type f -mmin -10 => shows file which are all created 10 within 10 minutes
↑ minutes

=> find . -type f -empty => to check all empty files
↑ file

> find . -type f -perm 777 => It will display which are all files have 777 permissions
↑ file ↑ permission

=> find . -type d -size +2k => It will display directory which are all > 2k.
↑ directo ↑ size

. ——— 2k => which are all have 2k size

* Diff b/w Soft link & hard link Interview

Soft link -> ln -s filename linkname
It is shortcut to the file. If we make any changes to the original file. It will reflect in the link file.
& if the original file gets deleted the link file doesn't work

Hard link -> ln filename linkname
It is shortcut to the file. if we make any changes to the original file. it will reflect in the link file.
& if the original file gets deleted the link file will work

Ex:

Create file1 & file2.

Write data to file1 => cat > file1
Hi I'm Rohith
Its Soft Link

> ln -s file1 softfile1 => To create a soft link of file1 => The data in file1 is reflect in soft file1
↑ soft link u can give any name
check soft file1 data size - it's compressed. (ls -sh*)
in same way edit soft file1. changed data will Reflect in original file.
rm -r file1 -> remove file1 then soft file won't work.

>ln file2 hard.file2.
↑ give any name.
& Even if u delete file2 -> hard.file2 will persist.

> useradd -m Rohith => to create Rohith user

useradd Rh ← I want save in home to store user details in /home.

> passwd Rohith -> to provide password

> su Rohith => to switch from root to any user it asks password but any other user to other user it Ask pw.

Exit

> userdel -r Rohith

↑ userdel to delete all the history & user Data

-r Rh -> u will get error be during creating u Did It to root.

> ls -lt -> It will show all the files

drwx------ 4 root root

↑ user ↑ group ownership

> groupAdd devlop. -> to create groop devlop

> chown Rohith f1 -> u gave user Rohith permission to f1

↑ user ↑ created file previously

-rw-r--r-- 1 Rohith root

chgrp dev f1 -> u changed f1 group to dev

-rw-r--r-- 1 Rohith dev f1

↑ added user ↑ added grp

> uname -a => It will show present linux Details

or

uname -V

> hostname => to check ip.

> port numbers 65535

Important devops port numbers

how to connect 2 linux password less

Create 2 instance in AWS

i) main

ii) Slave

in main

> ssh-keygen -> just type & click Enter 3 times

> ls -a -> u will see .ssh file with other

> cd .ssh -> Enter to ssh folder

> ls => ls

id_rsa id_rsa.pub

> useradd -m Rohith => to create Rohith user

useradd Rh ← > I want save in home
to store user details in \home.

> passwd Rohith -> to provide password

> su Rohith => to switch from root to any user it
Exit password

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drwx------ 4 root root
↑ ↑
user group ownership

> groupadd devlop. -> to create group devlop

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↑ ↑
user created file previously

-rw-r--r-- 1 Rohith root

chgrp dev f1 -> u changed f1 group to dev

-rw-r--r-- 1 Rohith dev — f1
↑ ↑
added user added grp

> uname -a => It will show present linux Details
or
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Important devops port number

how to connect 2 linux password less

Create 2 instance in AWS
i) main
ii) slave

in main

> ssh-keygen -> just type & click Enter 3 times

> ls -a -> u will see .ssh file with other

> cd .ssh -> Enter to ssh file

> ls => ls
id_rsa id_rsa.pub

> cat id_rsa.pub → copy that key

go to .ssh/ inside

> ls -a => u will see .ssh file

> cd .ssh =>

> inside .ssh → ls

Authorized_keys

> Vi authorized_key

in keyboard > press i to

> paste the copied key from main.

> press Esc

> :wq

Come to main.

> come to root user

> ssh root@ public Ip of slave => yes

or

private of slave.

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ports for Devops

20	FTP	File transfer protocol (Data)
21	FTP	File transfer control
22	SSH	Secure remote server Access
23	Telnet	Remote Login (not secure)
25	SMTP	-> Sending mail.
53	DNS	Domain name Resolution
67	DHCP	Dynamic Ip allocation (server)
68	DHCP	Dynamic Ip Allocation (client)
80	HTTP	web traffic
110	POP3	Email receiving
119	NNTP	Network news transfer
123	NTP	Time synchronization
137	NetBios	-> windows File sharing
138	NetBios	-> windows networking
139	NetBios	windows File sharing
143	IMAP	Email Receiving
161	SNMP	Network monitoring
179	BGP	Routing protocol
389	LDAP	Directory service
443	HTTPS	Secure web traffic
445	SMB	Windows File sharing
465	SMTPS	Secure Email Sending
500	ISAKMP	VPN Connection
514	Syslog	Logging

3306 - MySql

Devops tool ports.

port	tool
3000	grafana
5601	kibana
8080	Jenkins / web apps
9000	Sonarqube
9090	prometheus
6443	Kubernetes API

Devops Interview ports

22, 80, 443, 53

8080, 3306, 9090,

5601, 3000, 6443